WHAT IS CLAIMED IS:

1.   A base station transmitter in a CDMA system, comprising:

a base station modem for direct-spectrum spreading PCM data to an I-channel

5 and Q-channel;

a digital combiner for summing up the spectrum-spread CDMA signals by

sectors;

a digital signal processor for making the data rate of the digital base-band

CDMA signals outputted from the digital combiner twice; and

10   an RF processor for converting the digital base-band CDMA signals outputted

from the digital signal processor into analog RF CDMA signals.

2.   The base station transmitter in a CDMA system as claimed in claim 1,

wherein the digital signal processor includes:

15   first and second serial-to-parallel converters for converting the CDMA signals

outputted from the digital combiner into parallel signals;

first and second phase equalizers for compensating the phases of the converted

parallel digital CDMA signals; and

third and fourth FIR filters for filtering the digital CDMA signals whose phases

20 were compensated with a predetermined sampling frequency to make the digital CDMA

signals have the data rate twice that of the signals inputted thereto.

3.   The base station transmitter in a CDMA system as claimed in claim 2,

wherein each of the first and second phase equalizers is configured of an IIR filter.

4.   The base station transmitter in a CDMA system as claimed in claim 1, wherein the RF processor includes:

first and second D/A converters for converting the CDMA signals outputted

5 from the digital signal processor into analog CDMA signals;

first and second mixers for mixing the analog CDMA signals outputted from the first and second D/A converters with RF signals, to output RF CDMA signals; and

a third adder for adding up the RF CDMA signals outputted from the first and second mixers, to generate a QPSK-modulated CDMA signal.

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5.   The base station transmitter in a CDMA system as claimed in claim 4, wherein the RF processor further includes:

a band pass filter for removing the spurious component from the QPSK-modulated CDMA signal received from the third adder; and

15   an amplifier for amplifying the output signal of the band pass filter and sending the amplified signal to an antenna.

6.   A base station transmitter in a CDMA system, comprising:

a base station modem for direct-spectrum spreading PCM data to an I-channel

20 and Q-channel;

a digital combiner for summing up the spectrum-spread CDMA signals by sectors;

a digital signal processor for making the data rate of the digital base-band CDMA signals outputted from the digital combiner twice; and

an RF processor for converting the digital base-band CDMA signals outputted from the digital signal processor into analog RF CDMA signals,

wherein the digital signal processor includes first and second serial-to-parallel converters for converting the CDMA signals outputted from the digital combiner into

5   parallel signals,

first and second phase equalizers for compensating the phases of the converted parallel digital CDMA signals, and

third and fourth FIR filters for filtering the digital CDMA signals whose phases were compensated with a predetermined sampling frequency to make the digital CDMA

10 signals have the data rate twice that of the signals inputted thereto.

7.   The base station transmitter in a CDMA system as claimed in claim 6, wherein the each of the first and second phase equalizers is configured of an IIR filter.

15   8.   The base station transmitter in a CDMA system as claimed in claim 6, wherein the RF processor includes:

first and second D/A converters for converting the CDMA signals outputted from the digital signal processor into analog CDMA signals;

first and second mixers for mixing the analog CDMA signals outputted from

20 the first and second D/A converters with RF signals, to output RF CDMA signals; and

a third adder for adding up the RF CDMA signals outputted from the first and second mixers, to generate a QPSK-modulated CDMA signal.

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